

What is Asbestos?



PUBLIC AND BUSINESS LIAISON FACT SHEET

DTSC is one of six Boards and Departments within the California Environmental Protection Agency. The Department's mission is to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California



California
Environmental
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Asbestos is a common name for a group of naturally occurring fibrous silicate minerals that are made up of thin but strong durable fibers. These fibers generally vary in size and physical shape. Because of its physical properties, asbestos has been used extensively in construction and many other industries. For example, asbestos is commonly found in a variety of man-made products including insulation, ceiling and floor tiles, roof shingles, cement, automotive brakes and clutches.

What Happens to Asbestos When it Enters the Environment?

Because asbestos is a mineral, asbestos fibers are relatively stable in the environment.

Asbestos fibers do not evaporate into air. Asbestos containing material that can be crushed into a powder is termed "friable asbestos." When asbestos containing materials become friable, there is chance that asbestos fibers can become suspended in air. It is under these conditions that airborne asbestos fibers represent the most significant risk to human health.

Asbestos particles do not migrate through soil. Asbestos fibers do not dissolve in water, but under certain conditions, could become water borne and accumulate in steam beds and sediment.

Why is Asbestos of Concern?

Asbestos is a potential health concern because long term, chronic inhalation exposure to high levels of asbestos can cause lung diseases such as asbestosis, mesothelioma, and/or lung cancer.

Asbestosis is a scarring of the lungs due to lodging of asbestos particles in the small air pathways of the lungs. Blood flow to the lungs may also be decreased and this may cause enlargement of the heart.

Asbestos exposure may also increase chances of getting two other types of lung disease: cancer of the lung tissue itself and mesothelioma, a rare and deadly form of lung cancer that occurs in the lining of the chest and abdomen.

It is important to note that information on health effects related to asbestos exposure most commonly come from studies of people who have had long term exposures to relatively high levels of asbestos in the workplace.

How High is the Risk of Developing an Asbestos Related Disease?

The presence of asbestos or asbestos containing material does not always lead to an exposure. You can be exposed to a substance only when you come in contact with it through inhalation, skin contact eating or drinking it.

You are most likely to be exposed to asbestos by inhaling asbestos fibers which have become suspended in air. These fibers are typically generated through wearing down of naturally occurring asbestos and/or man-made materials containing asbestos.

Very low levels of asbestos are not likely to be harmful to your health, and low levels can be detected in almost any air sample. These are generally called “background” levels.

Even if you are exposed to a substance such as asbestos, many factors will determine whether harmful health impacts will occur, the type of health impact and/or the severity of any such impacts. These factors include the dose (how much), the duration of exposure (how long), the route or pathway by which you may have been exposed (breathing, eating, drinking and/or skin contact), other chemicals to which you might have been exposed, and individual characteristics such as general health, age, gender, nutritional status, family health factors, lifestyle, etc. The likelihood of you as an individual developing an asbestos-related disease depends on the amount of asbestos to which you might be exposed, the number of times that expo-

sure occurs and the length of time that you are exposed.

Asbestos-related illnesses are most typically found in the cases of long term exposure to asbestos in the workplace.

How is the Risk of Developing an Asbestos-Related Illness Measured?

Scientists have developed a method known as the “acceptable risk” model for describing the risks associated with environmental contaminants such as asbestos.

The scientific community has decided that society will consider anything less than a one chance in a million of getting cancer from asbestos or other contaminants as an “acceptable risk”.

Stated another way, as soon as the “one in a million” risk level is exceeded, measures must be taken to reduce such risks back to below the one in a million risk level. In practice, scientists perform a series of calculations to determine what measures are necessary to reduce asbestos concentrations in order to assure that the one in a million “acceptable risk” level is not exceeded.

Regulating Asbestos

For a more detailed discussion of asbestos management requirements, see the companion fact sheet “Managing Asbestos Waste”. Asbestos that may be crumbled by hand pressure is termed “friable” asbestos. “Friable” asbestos is considered hazardous because asbestos fibers may be easily released into the air.

Generally, during construction and/or asbestos abatement activities, the determination as to whether or not a sample of asbestos containing material is “friable” is generally made in the field by a certified expert.

Several different Federal, state and local agencies regulate asbestos. Generally, worker exposure is regulated by the Federal Occupational Safety

and Health Administration and its California State counterpart Cal/OSHA.

Atmospheric emissions of asbestos are regulated under the Federal National Emission Standard for Hazardous Air Pollutants, which is enforced locally by your local Air Pollution Control District.

On the waste disposal side, jurisdiction over asbestos containing wastes is more complex. A key factor governing regulation of asbestos waste disposal is whether or not the asbestos is in a “friable” form (i.e. can be reduced to a powder or dust under hand pressure when dry).

Wastes that contain only non-friable asbestos are not subject to management as a hazardous waste under state hazardous waste laws, regardless of their asbestos content; however, they are still regulated under air quality management regulations. Additional crushing, drilling, sawing or handling by other methods that release asbestos fibers can cause non-friable waste to become friable as well as trigger OSHA and Air District requirements.

The Department of Toxic Substances Control (DTSC) has classified friable, finely and powdered wastes containing more than one percent (1.0%) asbestos as a hazardous waste, and specifies special procedures for the handling and disposal of such wastes. These special procedures cover

packaging, labeling and manifesting of such wastes. In addition, asbestos containing wastes totaling more than 50 pounds must be transported by a registered hazardous waste hauler to a permitted hazardous waste disposal facility.

USEFUL CONTACT INFORMATION

DTSC Public and Business Liaisons (Duty Officers)

For further information about asbestos waste management contact DTSC Public and Business Liaisons (Duty Officers). You can call them at 800-728-6942, or contact them via the Department of Toxic Substances Control website —

<http://www.dtsc.ca.gov> — click on Toxic Questions? and follow the Contact a Live Person! link to the page listing each of the Duty Officers’ [e-mail](#) addresses.

DTSC Public and Business Liaisons provide informal guidance only regarding management of hazardous waste for the convenience of the public. Such advice is not binding upon DTSC, nor does it have the force of law. If you would like a formal opinion on a matter by DTSC, please contact the responsible program office directly. You should also refer to the statutes and regulations, DTSC Policies and Procedures, and other formal documents.

If you believe that you have received incorrect information from a Duty Officer, please contact Linda Janssen, Regional Coordinator, at (510) 540-3919.

Cal/EPA Customer Satisfaction Survey

We encourage you to complete a Cal/EPA Customer Satisfaction survey <http://www.calepa.ca.gov/about/custsvc.htm> so that we may improve our Public and Business Liaison Program.